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ABSTRACT

Although techniques of autosuggestion in personal development have a long history in some Eastern cultures, suggestibility as a character trait first came into focus in the West with the "animal magnetism" of Franz Mesmer. The uncovering of the nature and phenomena of hypnosis resulted in a steady and enduring interest in this state of heightened suggestibility. Much research has been done on hypnosis, although results have often been conflicting and no final answers to some basic questions have been discovered. The failure to establish consistently the ameliorative effects of hypnosis on learning and retention has been especially frustrating to those who would introduce hypnosis into education. Nevertheless, there does seem to be a consensus that hypnosis and related suggestive techniques, under proper control, can be valuable educational tools when used subtly and selectively. Of the suggestive techniques currently in classroom use, Georgi Lozanov's suggestopedia, used in foreign language teaching, is notable for its attempt to fuse the relaxed-state suggestion that characterizes Eastern mystics with the principle that all education is to one extent or another based on suggestion. (JB)

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Suggestion in Education:
The Historical Path of Suggestopedia

by
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In the culture of the 1970's much attention has been given to the power of suggestion. Positive thinking is advocated by hundreds of self-help books and articles, as well as by some professional therapies. We have become aware of the encroachment of subliminal advertising in the media, and parents guard impressionable children from the suggestive dangers of certain types of TV programs. People in our culture view themselves as autonomous, independent thinkers, so the authoritarian directives of the past are being replaced with subtler, indirect, equally effective ones. What about education? Will the wave of subliminal stimuli and the advocates of suggestion do to the schools what they have already done elsewhere? Have they done so already? What part has suggestion played in educational methodology, and what part can it play in the future? Is suggestion a manipulative technique or a humanistic approach to learning? Is it even ethical to use suggestion on unwary pupils, or is this what good teachers have always done? A housewife writing in an educational journal says:

> Suggestion has long been an educational aid. It is used whether consciously or unconsciously by educators. Everyone uses suggestion to some extent in everyday life. When you offer a chair silently to someone, and he sits down, you have successfully induced suggestion.[1]

In a classic work in this field, The Psychology of Suggestion, (1899), Boris Sidis states that "the fact of suggestibility existing in the normal individual is of the highest importance in the theoretical field of knowledge, in psychology, sociology, ethics, history, as well as in practical life,

in education, politics, and economics . . ."[2]

This is the century when suggestion has been recognized and named for what it is. Other centuries used it undoubtedly; any human communication has elements of it. "Would you like a cup of coffee?" is a conversational suggestion. "Relax and do your best" is one that would be found in a classroom. So it can be safely assumed that any method of education since history began used some type of suggestion, good or bad. So let us look for those which specifically used some special methodology or technique of suggestion. Those methods and the research connected with them will be the topic traced here.

What exactly is suggestion? Can we define a construct so universally used in so many different ways? Sidis, at the turn of the century, gave a very adequate definition of the term, and that is the one we will use here:

> By suggestion is meant the intrusion into the mind of an idea; met with more or less opposition by the person; accepted uncritically at last; and realized unreflectively, almost automatically. By suggestibility is meant that peculiar state of mind which is favourable to suggestion.[3]

The yogic schools of the Srotrayas, professional memorizers of sacred Indian literature, were one of the earliest forms of organized education. These schools exist today and have their roots in Indian pre-history with the Aryan invasion, which probably took place around the first half of the second millennium B.C. Sanskrit was the language of the Aryans, and the Vedas(from vid, meaning "to know") were their sacred literature. They were not books as such, for writing was not used in India before the fourth century. The oldest Vedic manuscripts are from the sixteenth century A.D., yet most of the Vedas were composed before 1000 B.C. If they were not written, then how were the verses retained for over two thousand years? It is supposed that the passages were not written down but memorized by a

special group of people whose task was to preserve the verses by heart. The Rig-Veda, for example, consists of 1,017 poems, 10,550 verses, and about 153,826 words - a massive undertaking for memory. When Max Muller translated it in the nineteenth century, he gathered no manuscripts, but instead consulted professional Srotrayas who recited it for him in Sanskrit by memory. These students had been trained from an early age for this function as a religious tradition. We do not know specifically of what this training consists, but the method is culturally Indian in nature and related to yoga. Later it will be explained how a modern teaching methodology using suggestion was copied from direct experience of a Westerner with an Indian yogi. The schools for this kind of training have a specifically religious purpose and require a minimum of eight years of study under a guru. This is one of the earliest forms of the type of education with which this paper is concerned, dating back about 3,000 years. If all known written sources of the Vedas were lost tomorrow, the verses would still be intact in the minds of the Srotrayas.[4]

The beginnings of this kind of education can be seen in the early writings of the Hindus, which contained elaborate descriptions of mental processes. The Buddhists developed a high degree of insight into psychological analyses of the mind, as detailed in some respects as our psychoanalytical writings. Yoga was developed as a method of mental enrichment for religious purposes.[5] Some practitioners of yoga are said to attain certain mental powers: telepathy, clairvoyance, and premonition. These are considered perfectly normal and natural, merely an acceleration of normal processes. Powers produced by concentration, meditation, and contemplation are supposed to include: past and future knowledge, mind reading, knowledge of distant places and stars; knowledge of the body,

control of hunger and thirst, intuition, levitation, control of material elements, perfection of the body, control of the senses, and the eight powers which appear widely in yogic literature. These are: minuteness (being small at will); expansion (increasing size at will); lightness (anti-gravity at will); reaching (obtaining anything or reaching any place); acquirement (wish fulfillment); lordship (controlling the energies of nature); self-control (freedom from influence); desire-control (ability to stop desires).[6] These and other powers come from the threefold sanyama which are concentration, meditation, and contemplation.[7] Concentration is the ability to hold the mind to one object. Meditation is the thinking about that object. Contemplation is the exhaustion of thought when one continues thinking without thought or desire and attains intuition, insight, or illumination. Sanyama as a tool of the mind has been used to gain many kinds of knowledge. It has been difficult for scientific investigators to obtain precise knowledge of yogic mental techniques because of their private religious nature and the difficulty of the Western mind in understanding Indian mysticism. For many reasons, according to Kovoor Behanan, there is no conclusive experimental evidence either for or against the notion that yoga improves intellectual faculties such as memorization or logic.[8] Yet super-memory feats have been observed in India , empirically, at least, by Westerners. In 1967 a Bulgarian psychiatrist, Dr. Georgi Lozanov observed a yogi lawyer named Sha perform computer-like memorizations.[9] Sha had only practiced yoga for three years in order to be able to do this. Lozanov, a yogi himself, has been able to explore scientifically the theoretical basis of this kind of learning and to base an entirely new, Western teaching methodology on it in the 1970's. So this account begins and ends with the techniques developed over 3,000 years ago. In between this vast span of time, many significant developments were happening in the West, especially in the nineteenth and twentieth centuries - events apparently different

but essentially linked to what we have already discussed.

Education in the West for the last two thousand years has been based on the faculties of logic and reason. Aristotle's massive categorization of all known sciences, Aquinas' Summa Theologica with its division of man into reason and will, and Descartes' "cogito ergo sum" all had their impact on learning as a rational process. Before Aquinas there was a period in which faith was stressed over reason, but after the Summa, this was not so much of a problem since faith and reason were shown to be compatible. The Renaissance found again the classical processes of catagorizing knowledge,and the Enlightenment sought those very means by which empirical knowledge was acquired. Education in the West was considered hard work, and reason was the tool of the mind to be used in becoming educated.

Because of the trends outlined above, suggestion has been neglected, at least officially, in historical Western pedagogy. Of course, it was always there, implicitly, as it is in all human interaction, but no one really noticed it. It was not until the eighteenth century, in medicine, that suggestion accidentally found its place into official Western history with the introduction of hypnotism.

The originator of modern hypnotism was a Viennese doctor named Mesmer. Although he did not actually use his hypnotic talents in the field of education, it is worthwhile to review his contribution in order to gain historical perspective.[10] Mesmer was a contemporary of Benjamin Franklin, who, incidentally, sat on a committee of the French Academy of Medicine which named Mesmer and his theory a fraud. G. H. Estabrooks, however, in Hypnotism, considers him to be a sincere man, though enormously deceived in his theoretical understanding of hypnosis.

In 1766 Mesmer wrote his medical thesis for the University of Vienna on the affect of planets on the human body. This was not as far-fetched for the 18th century as might be supposed. The principle of the magnet was just being formulated. Mesmer

decided that the human body was also bi-polar, like a magnet, and that disease was an imbalance of magnetic fluid called animal magnetism. This fluid was under direct control of the human will, and the hypnotic operator could direct its flow by looking his subject directly and firmly in the eye. Since the animal magnetism came largely from the hand of the hypnotist, he made long passes over the body of the subject in order to direct the flow into it. Mesmer never used all these stage techniques, but his followers did. To hypnotize the subject, passes went from the head to the toes; to awaken him, they went from toes to head. Some people actually claimed to see this fluid streaming from the hands and eyes of the hypnotist. It could operate from a distance, be reflected by mirrors, be shipped in a bottle, and be used to magnetize inanimate objects like a village tree, around which many sufferers could gather in order to be helped. Mesmer's clinic in Paris gave early animal magnetism its own mystique. Patients entered a large darkened hall and approached the "baquet magnétique", a large tub about a foot high. The "baquet" was filled with water, bottles, iron filings, and ground glass. Iron rods projecting from a wooden cover were touched by the patients. Soft music heightened the total effect. The moment came when everyone would turn and observe Mesmer approaching in his long silk robe, passing his hands over the people, touching some with his iron wand, and fixing them with a firm, hypnotic gaze. Of course, countless patients were cured.

The orthodox medical profession became jealous and investigated Mesmer in 1784, proclaiming him a fraud. He was completely wrong in his theories, but considering the state of ignorance in medicine in the eighteenth century, it is not unrealistic to praise Mesmer for his creativity, even genius.

Actually Mesmer did not know what hypnosis was and did not actually hypnotize, according to Estabrooks, but induced hysterical convulsions. One of his pupils, however, in 1784,

accidentally discovered modern hypnotic somnambulism. The Marquis de Puységur magnetized a young shepherd boy who fell into a trance instead of the usual convulsions. When the boy awoke, he remembered nothing. This attracted great attention and lead to other experiments, so that by 1825, hallucinations, anesthesia, and the posthypnotic suggestion had been discovered.

In the 1840's an Englishman named Braid invented the hypnotic technique of gazing at a bright object. He was the first to use the term "hypnotism." Braid rejected previous theories of animal magnetism and phreno-magnetism and hit upon the idea that hypnosis was related to suggestibility.

In 1815 the Abbé Faria accidentally discovered another hypnotic technique, that of relaxation. He would sit his subjects around the room, relax them, and repeat the word "sleep." Some would immediately fall into a trance.

The father of modern hypnotism was Liébeault, a physician in Nancy, France, in the last half of the nineteenth century. For twenty years he used hypnotism to treat the poor, refusing any payment for the treatments. He used hypnosis as a tool for treating children's functional nervous system disorders, yet he also considered it a valuable tool for education to be used on "vicious and degenerate children with habits of lying, cruelty, inveterate idleness or cowardice."[11] Liébeault happened to cure a patient who had been unsuccessfully treated by Bernheim in the Nancy medical school. Bernheim visited Liébeault in order to expose him as a quack and was a humble enough man to realize that this "quack" was a genius. Bernheim studied hypnotism for the next twenty years and used his respectable position to give credibility to it. He hypothesized that suggestion was the key to hypnosis. He perfected the hypnotic sleeping induction.

So far the interest in hypnosis was medical, but in 1935 Clark L. Hull of Yale extended it to psychology. Hull investigated susceptibility to hypnotism, the posthypnotic suggestion,

learning in hypnotism, and hypnotic amnesia.

A contemporary of Bernheim, Charcot, in Paris, was also investigating hypnosis. Charcot was a great anatomist and neurologist. He divided hypnosis into the three stages of lethargy, catalepsy, and somnambulism. Charcot held to older theories and made enormous errors, in spite of attempted correction by Bernheim. Alfred Binet, father of the Binet-Simon test, was a disciple of Charcot. Bernheim and the Nancy school finally rid modern hypnosis of the concept of animal magnatism. He laid a good theoretical foundation for modern hypnotism. Bernheim, together with the Russian psychologist Pavlov, made one serious, but natural error, according to Estabrooks, by linking hypnosis to sleep. Hypnosis is a state of wakefullness linked to suggestion:

> Hypnotism is simply exaggerated suggestibility. Whether this comes as a result of the hypnotic trance or by the emotions, the second great sensitizer of the brain, makes very little difference. Results are practically identical.[12]

Liébeault and Bernheim treated over 30,000 patients within a twenty year period. Doctors from all over Europe studied hypnosis under them. Their most famous student was Sigmund Freud, a young, inexperienced doctor who was so impressed with their work that he translated their books into German. Freud knew little about hypnotism and was never a good hypnotist because of his lack of confidence in himself.[13] He had collaborated with Joseph Breuer,who was a much more successful hypnotist than he was. Freud thought that a deep stage of hypnosis was necessary for successful treatment and found that most people could not reach that level. He finally became discouraged and changed to free association and dream interpretation. He decided that instead of suggesting away symptoms and disturbing thoughts, it was better to let the patient talk them out. Freud's rejection of hypnotism as a technique deterred its use by psychoanalysts for decades.[14]

The man who turned hypnosis into popularized suggestion was Émile Coué. He was also from Nancy, France, the home of

Liébeault and Bernheim. Coué was not a doctor nor a psychologist, but the owner of a local drugstore who absorbed a great working knowledge of hypnotic technique from the intellectual milieu of his native city.[15] Coué found that slight hypnosis gave better results than deep hypnosis.[16] He found that he got good results with general suggestions without even knowing specific afflictions which they cured. For this purpose he coined the famous phrase: "Every day in every way I'm getting better and better."[17] Coué's technique for inducing positive suggestions in children was this:

> As soon as the child has gone to sleep, one of the parents goes very quietly into the bedroom and up to the bed. A hand is slowly and gently laid on the child's forehead. Should the child stir, and seem about to wake up, the parent says in a low tone, 'Sleep, go on sleeping, sleep soundly,' repeating the phrases until the child is sound asleep once more. Then the parent, still in the same slow and quiet tones, reiterates all the improvements desirable in the child, whether from the point of view of health, sleep, work, application, conduct, or the like. When this has been done, the parent withdraws, still taking the utmost care not to wake the child.[18]

Coué recommended that children should have a suggestion a day, just like milk or cocoa for breakfast.[19] He was going in the right direction with his emphsis on suggestion and the light trance. It took twentieth century psychological and educational research to verify his intuitive insights.

As early as the 1890's research relating to suggestibility in children began to find its way into books and professional journals. An attempt to measure suggestibility was made in 1893 by E. W. Scripture at the Yale laboratory. He had the child put his finger on a thin wire through which current passed and had to tell the experimenter when the wire became

warm. On the first two trials, the current was turned on, but on the last two, it was not. If the subject reported warmth when there was no current, he was said to be suggestible.[20]

In 1896 Small tested children ranging from elementary age to high school. The first test was for the illusion of smell, in which water was sprayed and the subjects had to guess the name of the perfume. The second test was for illusion of taste using salt, sugar, and distilled water. The third test was for illusion of sight in which a toy camel with a string around his neck appeared to be pulled but actually remained stationary. Out of 381 children, 291 reported the illusion. Small concluded that suggestibility is universal, high in degree, and in control of those who understand children.[21]

In 1899 Boris Sidis published a remarkable book, The Psychology of Suggestion: A Research into the Subconscious Nature of Man and Society. The theories of Sidis parallel research findings of the middle twentieth century. Sidis was a psychologist at the Pathological Institute of the New York State Hospitals. Much of his experimental work was carried out by the Harvard Psychological Laboratory. (His book has been reprinted by the Arno Press, 1973, under the series Mental Illness and Social Policy: The American Experience.) The first part of the book divides suggestibility into two types: normal and abnormal. Normal suggestibility is cultural, the kind educators might produce in their classroom. Its primary law, according to Sidis, is that "indirect suggestion is far more effective than direct suggestion."[22] Abnormal suggestibility, of which hypnosis is one form, has as its law the opposite: "The more direct we make our suggestion the greater the chance of its success."[23] The two types of suggestibility have unique conditions, outlined in the following chart:[24]

Normal Suggestibility	Abnormal Suggestibility
1. Fixation of attention	1. Fixation of attention
2. Distraction	2. ----------
3. Monotony	3. Monotony
4. Limitation of voluntary movements	4. Limitation of voluntary movements
5. Limitation of the field of consciousness	5. Limitation of the field consciousness
6. Inhibition	6. Inhibition
7. Immediate execution	7. ----------

Between the two, only steps number two and seven are different. Whether or not Sidis' theory is correct or not possible to determine here. It is remarkable, however, that this early work so faithfully precedes other more scientifically validated work.[25]

The second half of Sidis' book concerns itself with social suggestibility in Western history of the last thousand years. He examines such topics as Medieval mental epidemics, demonophobia, stampedes, financial crazes, and American mental epidemics. Mass suggestibility is accounted responsible for some of the social hysteria which Sidis examines. His thesis parallels that of a modern writer, Charles Musès, who hypothesizes that culture is nothing more than mass hypnosis.[26]

Experimental research continued into the twentieth century. In 1911 Cohn and Dieffenbacher tested the suggestibility of children 7 to 20 years old by asking questions about certain pictures. They found boys and girls to be almost equal in suggestibility.[27]

In 1920 Charles Baudouin wrote Suggestion and Autosuggestion, another classic in this field. Baudouin was a close follower of Coué. He,too, believed that suggestion was a vital part of the rearing of children.[28] Autosuggestion should be part

of early childhood training since children are so highly suggestible in the waking state. Suggestion is not a violation of the child's individuality, he says, because it is a means of training his powers of autosuggestion. Only in the case of profound hypnosis could an ethical question arise, and even in adult subjects, deep hypnosis is only useful as a secondary method. Deep hypnosis certainly would be no aid to children as suggestible as they already are in the waking state.

Part of Baudouin's extensive theory of suggestibility was the close relation between emotion and spontaneous suggestion.[29] He was one of the first to state the principle of the "Law of Subconscious Teleology" which has been echoed in positive thinking books up to the present: "When the end has been suggested, the subconscious finds means for its realization."[30] Baudouin was more theoretical than experimental, but his contemporaries were conducting experimental research in England.

In 1921 Aveling and Hargreaves tested the variable of prestige in suggestion. Forty-six boys and nineteen girls were tested with seven separate tests. The results indicated that some subjects are more suggestible than others.[31]

As early as 1922-1923, experimental studies in suggestion were being conducted at Oxford. The subjects were elementary school boys at the Central School. The experimenter was G. H. Estabrooks, who is a noted writer and authority on hypnosis. A complex battery of tests measured suggestion, suggestibility, psychogalvanic reflex, and intelligence. Estabrooks found the intercorrelation among the tests to be almost nil and that none of them actually measured suggestibility. He did, however, find that strong emotion has a great influence on suggestibility, which agrees with Baudouin's theory.[32]

In 1924 M. Otis pre-tested 1,045 children and gave a revised form of the pretest to 377. He reached four conclusions: 1) There is an ability to resist suggestion; 2) Chronological age is important; 3) Mental age is most important in resisting suggestion; 4) Girls have a slight advantage over boys in

resisting suggestion.[33]

One of the earliest learning experiments of this type was conducted by Young (1925) who found no advantage in using hypnosis to memorize adjective-noun associates.[34] He did, however, find it an aid in recalling childhood events. Young's research has been replicated many times and confirmed. Later decades formulated a workable theory to explain his findings.

In the 1930's experimenters continued to measure suggestibility but the emphasis on research shifted to the practical consideration of how to use it in the classroom. The concept of hypermnesia in learning academic subjects began to be investigated.

Hurlock (1930) found that some popular beliefs relating to suggestibility in children were not substantiated in her research. Children are not as suggestible as commonly thought; differences between race and sexes are negligible. The differences in suggestibility depend primarily on the individual child.[35] Huse (1930) used paired-associate symbols for subjects to memorize.[36] Those in the waking state showed no significant advantage in recall. Stalnaker and Riddle (1932) had subjects recall prose and poetry learned a year earlier.[37] Mitchell (1932) used nonsense syllables and found no advantage in memory using hypnosis.[38] Gray (1934) tried to determine whether hypnosis aided students in learning to spell. He found only 1.92 per cent difference of improvement in favor of hypnosis.[39]

One of the most comprehensive and valuable experiments on hypnotic learning dates from the 1940 article of White, Fox, and Harris.[40] In their survey of previous research, these investigators found that hypnosis sometimes appeared to aid memory and sometimes had no effect. Could the type of material to memorize be the key variable? In order to find out, they used three different types of material:

1) paired-associate nonsense words; 2) poetry; 3) non-verbal movie scenes. The experimental group recalled the material twice, the second time under hypnosis. The control group recalled the material twice without hypnosis. The results were distinct. Hypnosis is no aid at all in the recall of nonsense material (which accounts for the failure of so many previous experiments in this regard), but gave a 53.1 per cent advantage for learning meaningful material like poetry. Hypnosis yielded an 83.1 per cent advantage in the recall of the movie scenes. The authors explain that paired-associates are strictly cue/response material which does not favor creative reconstruction, whereas poetry or movie scenes do. They point out that there are other ways to produce hypermnesia other than hypnosis: relaxation, twilight sleep, and free association. Relaxation is one thing that all have in common. Alert, sustained attention may not be the best mental state for learning,for the "mind sometimes works better when left a little to itself."[41]

Other studies investigated the relationship between intelligence and suggestibility. Reymert and Kohn (1940) found no relation between degree of suggestibility and IQ. They reported that suggestibility decreases with mental age; state of development is more important than rate of development. Older persons are less susceptible to suggestive factors in their environment.[42] Simmons (1940) found that persons with high IQ yield to fewer suggestions than those with a low IQ.[43]

In April 1941 Clarence Leuba published an article advocating the use of hypnosis to control variables in psychological experiments.[44] Leuba hypothesized that the most fundamental characteristic of the hypnotic state was not suggestibility, but the fixation of attention on one set of stimuli. Theoretically, then, it would be possible to induce an unsuggestible state in a hypnotized person. Suggestion in hypnosis is only a secondary phenomenon. Leuba's theories were certainly different from others and had no direct relationship to education. However, his distinction between suggestion and the hypnotic state may explain some

of the discrepancies in later educational research in which the supposedly hypnotic effects of the experiments are suspected to be the result of the experimenter's exhortations. This has been one of the major problems in the research in suggestion and hypnosis in this century.

During the 1940's reports began to come from actual teachers who used suggestion in their classrooms. Franklin Taylor taught his students the power of suggestion by demonstrating a unique type of card trick. Actually there was no trick, other than what Franklin told his students and what they believed.[45] The explanation of the trick was used to teach the power of suggestion. Students of general and abnormal psychology at Western College were introduced to hypnosis by their instructor who actually hypnotized several members of the class.[46] One high school teacher reported an amusing experiment in suggestion during one of his lectures. Throughout the session, the instructor periodically scratched his nose. Before the end of the class, more than half of the students had scratched their noses too: a high positive correlation between teacher nose-scratching and student nose-itching.[47]

In the 1950's more theoretical work in suggestion was published. Andre M. Weitzenhoffer's Hypnotism: An Objective Study in Suggestibility combines the scientific research and theory of the past with the author's own vast experimental findings. In his chapter, "Influence of Hypnotic Suggestion on Memory and Learning," Weitzenhoffer presents a good summary of past research, with its generally conflicting results.[48] Some researchers have found hypnosis an aid to recall while others have found just the opposite. Some experimenters hypothesize that the key to the dilemna is the type of material being memorized and whether it is meaningful or not.

Weitzenhoffer says that hypnosis is not the only way to

improve recall.[49] Other waking states such as abstraction, relaxation, and free association are also effective. Relaxation is the common point in many mental functions, especially those used in creative thinking and reconstruction. He says that hypnosis is superior to the waking state in recalling memorized material which has meaning and organization. Poetry and prose, for example, might show a gain with hypnosis of as much as 50per cent over the waking state. But for nonsense material such as numbers, syllables, and words, hypnosis offers little or no advantage. Hypnosis also lends itself to superior recall of past experiences and past material associated with affect. He also points out that this is not really much different from recall in the waking state since emotive factors there also aid memory.[50] There is evidence also that in some hypnosis, time is condensed to such a degree that the subject is actually engaged in learning for a greater period of time than in the waking state. Other factors present in hypnosis may include relaxation, construction of awareness, better possible motivation, and removal of conscious interference. All could be expected to aid learning.

At this time personality factors of the hypnotic subject continued to interest researchers. Weitzenhoffer reports previous research in his study:

> In summary, it appears that we may say that suggestibility is highest at the ages of seven to eight, and that it is somewhat greater for women and girls than for men and boys, and greater for individuals of higher than of lower intelligence(these being measured on a Binet-type test). In regard to personality traits no general conclusions can be drawn. Attitudes and motivation appear to have some influence upon suggestibility, a facilitation resulting when they are positive.[51]

Other researchers such as Zuckerman and Grosz (1958) correlated dependency and suggestibility. They found that

a person with strong dependency needs is more likely to be suggestible than one with strong needs for autonomy.[52] If this is accepted, then the successful use of suggestion as an educational tool would depend a great deal on the individual personalities and needs of the students.

Practical uses of educational hypnosis were found in Japan during this period. Professor Takehiko Matsukawa, Director of the Adachi Educational Research Center hypnotized over one thousand children with permission of the Japanese Ministry of Education. Hypnosis was used to remove mental blocks and improve learning in retarded students.[53]

The 1960's produced more of the same types of research as previous decades. Some of the central issues were hypnotic susceptibility versus unsusceptibility and different types of trance states. Experimenters began to distinguish between alert hypnosis and the traditional kind in which exhortations to sleep were used. More types of practical applications were being made, specifically in reading. The hypnosis versus non-hypnosis problem in memory learning continued as an issue.

In 1961 London and Fuhrer performed a hand dynamometer weight-holding and tremor test on hypnotized and unhypnotized subjects. After the first test, subjects were exhorted to perform at a maximum and then retested. The results indicated that "hypnosis, as such, adds nothing magical to performance. Motivational instructions are clearly more important than the hypnotic trance."[54]

Hallack McCord (1962) reports a pilot study done on a middle aged man who was given Form A of the Nelson-Denny Reading Test. He was then placed in a deep trance and given the suggestion that he would read twice as fast on Form B of the test. This was administered and the percentile rankings were compared: Form A - 30th percentile; Form B - 80th percentile, an increase of 50 percentile.[55] McCord

also reports that Milton Erickson, one of the world's leading medical hypnotists, enabled a woman physician to study for her medical boards while hypnotized. She read the material at a tremendously fast rate and later was able to recall it on the examination.[56] Hypnosis has also been used to improve learning by college students and retarded children. It has been used for all age groups to modify self-concept. McCord (1963) reports using hypnotherapy combined with tutoring to help a twelve-year-old sixth grader improve his reading ability. The boy was reading at the 5th percentile level for his grade. He was given ten one-hour sessions over a four month period in which he was placed in a medium trance. While in the trance, he was given suggestions that reading was enjoyable, that he could read faster, and that he would comprehend more. The other half of the session was spent on reading practice. At the end of the therapy, he passed tests of silent reading from grades 6 to 8. His reading speed was high average to fast.[57]

In hypnosis there may be different kinds of trance states, including active ones and passive ones. Hypnosis may be a state of alertness or one of deep relaxation. Liebert, Rubin, and Hilgard (1965) tested word memorizing of sixteen word-number pairs such as "Table-7," "Pig-7," "Teeth-4". They found that alert hypnotized subjects did significantly better than the traditionally hypnotized ones.[58]

Ernest Hilgard and André M. Weitzenhoffer also distinguish between waking suggestions and hypnotic ones.[59] Different states of hypersuggestibility emerge as distinct in this regard.

London, Conant, and Davison(1966) had 40 undergraduate students learn two sets of 10 nonsense syllables. One group was hypnotized before memorization, and one group was merely told to do better on the second list. The third group was

used as a control. The experimental condition produced no significant differences between subjects which were relatively susceptible and those unsusceptible to hypnosis. The authors suggest that the difference might have been the two groups' attitudes toward following instructions rather than hypnosis itself.[60]

London and Cooper (1968) reached similar conclusions. If variables such as anxiety, distraction, exhortation, alerting instructions, and relationship with the experimenter are eliminated, no direct effect of hypnosis on memory is observed.[61] These are the variables which go along with hypnosis, however, so even if the hypnosis itself is not responsible for experimental effects, it may be worthwhile to use the variables themselves to aid learning. London and Cooper conclude that hypnosis per se probably does not help learning or recall, but the suggestions for memory and motivation to learn may result in the better performance observed in some experiments.[62]

Contrasting conclusions were reached by Harley and Harley (1968) who tested the effect of hypnosis on verbal learning. One group of subjects was merely hypnotized; another group was hypnotized and given suggestions to stay alert and learn efficiently; a third group was given the suggestion of alertness and learning efficiency but not hypnotized; a fourth group received no suggestions and no hypnosis. A list of three-letter paired syllables were learned, such as "FOD-RUL, WID-CAV, HUF-DOW, LAN-KOZ." The results were contrary to what was expected. Hypnosis actually inhibited verbal learning. The group which learned fastest was the one which had received no suggestions and no hypnosis. Those in the alert hypnotic condition did as poorly as those in the traditional hypnotic state.[63]

A more practical suggestibility experiment was done by

Johnson and Foley (1969) with a psychology class in which 10 questions were given pertaining to a chapter in the textbook. The class was divided into three groups: one was told they were filling time while the instructor was out of the room; one group was told that a new teaching method was being tried to test whether it was good or bad; one group was told that it was using a new proven teaching method. After all three groups were tested, it was found that the placebo group did significantly better than the others and that there was little difference between the performances of the other groups.[64]

While some researchers investigated the theoretical basis of suggestibility, popularizers were introducing practical applications. One such writer, Edwin J. Brown, of the University of Santa Clara, recommended indirect ways of using suggestion in the classroom and at staff meetings.[65] A suggestion is a safe tool compared to a direct command, he says, for if it is not followed, no one has lost face. Teachers have had more psychological training than any other business or professional group working with the public, so they should by able to apply the principles of suggestion directly to their work. He listed specific examples which could be used in a classroom.

In the 1970's suggestion and hypnosis have continued to be accepted as a pedagogical tool. In the U. S. more basic experimentation has been done, and a growing acceptance of the principles of suggestion in the classroom has taken place. Editorializing such as this remark by Stanley Krippner summarize this trend:

> The hypnotic trance is generally defined as a state of consciousness that is characterized by a heightened responsiveness to direct suggestion. Because suggestion is a frequent concomitant of the teaching process, it is likely that many educators have, without knowing it, used some form of hypnosis in many of their most successful pedagogical efforts. Classroom teachers use hypnotic

> principles when they attempt to relax their pupils before embarking on a difficult assignment. High school athletic coaches who motivate their teams by delivering 'pep talks' are capitalizing on another form of hypnosis. College instructors who capture their students' attention by the use of colorful language and visual aids are utilizing another hypnotic technique. Hypnosis, in one form or another, has long been used as an educational tool.[66]

Another advocate of educational hypnosis, Ralph Alan Dale, points out that hypnotism is employed in advertising, political campaigning, religious contemplation, and education, with neither the "hypnotist" nor the subject aware of it.[67] Hypnosis does not need to be introduced to education, for it has been employed throughout the history of education. He suggests nine uses of hypnosis in education: 1) reinforcing good habits and getting rid of bad ones; 2) expanding consciousness by increasing the limits of experience; 3) aiding concentration; 4) improving memory; 5) increasing motivation; 6) getting rid of mental blocks; 7) lessening anxiety; 8) expanding original and divergent thought processes; and 9) developing self-confidence and power. Educational hypnosis such as this and stage hypnosis are opposites. Stage hypnosis requires manipulation of one person by another. Educational hypnosis requires participation by the student, awareness of the process, and memory so that what is learned can be applied.

Similarities have been noticed by Martin Astor (1971) between the behavior of hypnotic subjects during induction and the behavior of children working on teaching machines.[68] Eye fixation, bodily immobility, suggested imagery, concentration, and a progression into deeper levels of a similated experience are parallels in programmed instruction and hypnosis. The operant conditioning model has five basic learning activities according to Astor: 1) small steps of graded material; 2) active responding in operating machines, writing, and checking; 3) immediate confirmation; 4) self pacing; 5) program testing. Compare these steps to those of hypnotic induction

procedure: 1) graded suggestions; 2) cooperation and motivation in the hypnotic process; 3) immediate praise; 4) pacing according to individual rate and needs; 5) record keeping by the operator. Astor strongly urges that teachers be given special training to use hypnosis as they would any other educational tool: "Teachers could benefit enormously from learning to become hypno-educators. A well-trained hypnotic operator is an excellent teacher; he recognizes the importance of individual differences and he adapts his material to the subject's intellectual ability and previous educational experiences."[69] An entirely new kind of teacher training would be needed, and teachers would have to learn a great deal about developmental learning processes. But what about the dangers of using hypnosis in education? Won't parents object and aren't there physical and psychological dangers involved? Is it ethical? Astor believes that poor educational practices are a more harmful influence on children than poor hypnosis. Suggestion is a tool which can be used or misused; the question remains one of basic trust. The teacher is still a teacher, not a hypnotist. "Hypnosis is not being advised for all children at all times," he cautions. "All we are saying is that the power of suggestion is a potential resource ready to be channeled, harnessed, and utilized as an aid in facilitating certain kinds of learning for some children. Strange as it may sound, educational hypnosis can be used to free children to do their own things through greater self-discipline, self-control, and deeper learnings."[70]

In the 1970's hypnosis has begun to be used in special education. Jampolsky (1970) worked with a group of children whose learning disability included number reversals. He combined hypnosis with sensory substitution, the utilization of sensory modalities other than vision to learn. They were

taught to "see" the numbers by feeling them, thus substituting tactile and kinesthetic modalities for visual.[71] The same method was used by Bach-y-Rita et al. (1969) to teach blind subjects to see by sending impulse patterns to the skin with a TV camera.[72] Jampolsky has also used the technique successfully with children with reading difficulties and those who confused letters such as "b" and "d."

Jampolsky and Haight (1975) used autosuggestion and visualization on an elementary student who, although tested to have high reading ability, was having difficulty with reading. Since John was an auditory learner, his problem was the lack of ability to visualize. Jampolsky used a visualizing exercise with the boy, along with hypnosis. By the following day, his reading performance was radically different and he continued to improve. His homework each day was to visualize himself reading with pleasure. The boy's comprehension and attitude remained excellent.[73]

At the Kent State University Child Study Center, Stanley Krippner used hypnosis as an aid to better study habits, increase of concentration, reduction of test anxiety, increase of motivation, and help in specific language skills. He makes some useful remarks regarding the qualifications of teachers who wish to use hypnotism in their work:

> In this connection, it might be asked what special qualifications a professional person must have in order to utilize hypnosis successfully in an educational setting. This is a crucial point because it is likely that the lack of trained personnel, rather than the lack of student interest, is the major factor inhibiting development in this field. A sound knowledge of educational psychology as well as a solid background in hypnosis are necessary. The hypnotist must understand the psychological and physiological concomitants of reading improvement and study habits. Membership in either the American Society of Clinical Hypnosis or the Society for Clinical and Experimental Hypnosis is recommended.[74]

Lawlor (1978) reports the use of hypnosis in treatment of school-related problems with elementary school children. The most typical problems include fears of leaving home, fear of abandonment, fear of injury to parents, rivalry over the mother, fears of starvation and annihilation. Hypnosis is found to be quicker than traditional methods in restoring children to a normal school environment.[75]

Three public schools used tape-recorded hypnotic suggestions on 48 hyperactive children between the ages of six and eight. The problems being treated were short attention span, low frustration tolerance, and poor motivation. The children were released from their regular classrooms each morning for fifteen minutes. They were given suggestions of relaxation, ideas of coping with emotional problems, and motivational suggestions. At the end of the year, the children were evaluated by their teachers; 45 out of 48 were found to function better in school, from decreased hyperactivity to better than average performance in their classes.[76]

In 1973 the University of North Florida began to use hypnosis and self-hypnosis to assist students in overcoming common academic problems such as test anxiety, poor concentration and memory, procrastination, lack of motivation, and problems in creativity, visualization, and values clarification. The training involved ten to twenty students per group who met once a week for four weeks. The used Harry Aron's "sandwich" method of learning, which includes three steps:

> a) While in self-hypnosis, giving the suggestion, 'When I study I will relax, concentrate, and learn the material quickly and easily' ; b) out-of-hypnosis studying; c) while in self-hypnosis, giving the suggestion, 'What I have studied I will remember easily and quickly and be able to apply to any test I might take.[77]

Group hypnocounseling and test anxiety groups meet regularly. Student enthusiasm for the method is high, and there are a large number of faculty referrals, attesting to the popularity of the service.

In the experimental field, Dhanens and Lundy (1975) found that relaxation produced a consistent (but not significant) decline in recall. Memory can be aided with a combination of hypnosis and motivating suggestions.under certain conditions, which would include good hypnotic subjects and contextual material. Nonsense material does not respond to hypnotic treatment.[78] Melnick and Russel (1976) reported evidence that systematic desensitization is more useful than hypnosis in the treatment of test anxiety.[79]

A commercial method of suggestion which has been very popular in this decade is the Silva Mind Control Method. Mind Control is supposed to be a kind of meditation which produces alpha waves in the brain and gives the user hypermnesia. Jose Silva stumbled across the principles of Mind Control while using hypnosis on his children to help them with their schoolwork. He discovered the paradox that the brain seemed more energetic when it was less active. The brain received and stored more information at lower frequencies, so Jose sought a way to keep the mind alert at those frequencies which are more similar to daydreaming and sleep than practical activity. He finally abandoned hypnosis because it permitted receptivity but not independent thought. He developed instead a series of mental training exercises which combined relaxed concentration and vivid mental imagery.[80]

Today Mind Control is used for improved memory and speed learning in sales, teaching, law, acting, insurance, and many other fields. It has been formally taught in twenty-four colleges and universities, sixteen high schools, and eight grade schools.[81]

A complete, well-documented and researched teaching method has come out of these trends in suggestion, but not from the Western sources. In 1971 Dr. Georgi Lozanov published Suggestologiia in Bulgaria, outlining a new method of foreign language teaching based on suggestion and subliminal stimuli. Lozanov purposely ignored the Western research on hypnosis and any reference to Freud, since this is considered decadent by the Soviets. They have their own history of research, however, based in great part on Pavlov (who regarded suggestion as the most basic type of the conditioned reflex[82]) and are carrying out some very interesting experiments in conditioning, hypnopedia (sleep learning), and hypnosis.

In 1967 Lozanov went to Bombay and studied the memory feats of the yogis.[83] His intent was to abstract those elements of Yoga which afforded hypermnesia, without the years of practice required by regular yoga. Lozanov himself practices yoga, as well as being a noted hypnotist and surgeon in Sofia. He has performed painless surgery using only hypnosis as an anesthesia. His purpose in instituting Suggestopedia, however, was not to make yogis out of his students, nor to hypnotize them, but to use elements of both to help them learn easily and rapidly.

From his research, Lozanov refined six elements conducive to the state of hypermnesia. These are the foundations of Suggestopedia: authority, infantilization, double-planeness, intonation, rhythm, and concert pseudo-passiveness.

Authority is the set of conditions necessary to engender confidence in the student's mind that he will learn. Lozanov found that certain materials were better than others in this regard - works of famous authors held more authority than works of nondescript writers. Above all, the authority of the teacher is necessary. By authority is not meant an

authoritarianism, but the assumption by the teacher of the role of teacher. Tone of voice, facial expressions, posture, and manner are all powerful stimuli to unconscious learning. Basically, if students have confidence in the ability of their teacher, they learn more. Teachers at the Institute of Suggestology in Sofia are specially trained to enact the role of teacher in a dynamic manner.

Infantilization refers to the role of the student in which he is able to remove barriers to learning by entering the mental set of a child. Upon entering the Institute, each student is given a new name and identity from the culture of the language he is studying. This frees him from fear of making mistakes or becoming embarrassed, since he does not have to protect his own identity. It is the new self which makes any errors. Group games, songs, and role plays are all used to further free individuals from inhibitions. Lozanov notes that a child's world is spontaneous and that children memorize more easily than adults. Infantilization duplicates this process.

Double-planeness refers to subliminal stimuli inherent in the teaching process, such as the physical condition of the classroom or the teacher's personality. The second plane of almost imperceptible changes in voice, gait, speech, harmony, color, rhythm, warmth, are picked up by the subconscious and are the source of our intuitive impressions. These are as powerful in teaching as what is actually said or done consciously.

Intonation gives the real message of speech. Words are especially conducive to suggestion when they have a soft, solemn, or commanding tone. A low-pitched, rhythmical suggestion has a greater effect than a direct command. Suggestopedia employs two types of intonation: a "horizontal intonational swing," and a "vertical intonational swing." In the former, each word or phrase is repeated three times, with a different intonation each time; in the latter, the three words or phrases

are read together, each with a different voice tone. The three tones used are normal, soft, and loud command.

Rhythm is considered by Lozanov to be a basically biological principle. It enables intonation to achieve its maximum effect. Rhythm alone might be monotonous and hinder memorization, but used with different tones, it produces hypermnesia. Experiments which were conducted at the Institute in the proper timing of the words - every second, five seconds, ten seconds - showed that rhythm has a positive effect on memorization.

Concert pseudo-passiveness is a term meaning that a student is much more receptive to suggestion when deeply relaxed (not necessarily hypnotized, however). Relaxation increases mental efficiency and actually cures fatigue. Students at the Institute, after four hours of language training each day, are wide awake and rested. This state of relaxation is based on Lozanov's research on Savasana yoga. One of the key stages of the method is the concert session during which 18th century baroque music accompanies rhythmic, intonational reading of the new language material. Students recline in special chairs and concentrate on the music, not on the language reading. The mental and muscle relaxation as well as the indirect approach to the material produce faster learning. The emotions are also involved in the concert sessions, for the musical experience is positive and stimulating.

Tests run during the concert session showed that students' alpha brain waves increased, beta waves decreased, pulse rate slowed down, and blood pressure dropped. After four hours of class, including one concert hour, students show no signs of fatigue or stress. Questionnaires distributed to the students reported improvement of regular sleep, disappearances of personal problems, improvement in mental and physical health, and great satisfaction with the suggestopedic course.

Suggestopedic language programs have been started in Canada, Austria, and most Eastern European countries. The

Moscow Olympic Committee is considering using the method to train workers to speak French or English during the 1980 Olympics. In the U.S. Suggestopedic courses are offered by Mankind Research Unlimited (MRU) in Silver Spring, Maryland, and by Language in New Dimensions (LIND) in San Francisco.

The method used at MRU is typical of Suggestopedia.[84] Students are given new identities and backgrounds the first day. Class is begun in a traditional manner with the teacher explaining new material, using pantomime and visual aids. He or she then reads it in three different intonations. Students relax as classical music is played and the material is again intoned three times: first conversationally, then in a whisper, and finally in a triumphant tone. The next day, students use their new identities to role play in groups of two or three what they have learned the previous day. This can be done even with an entirely unfamiliar language since words seem to come to the surface of the mind from nowhere due to the previous day's training. The only homework is to read a few pages before going to sleep. The next day begins with a general review of the material and concludes with songs, games, and more role plays. Before the day ends, the teacher again presents new material. After 25 days like this the students can read, write, and speak 2,000 words of the new language. The are confident and more self-expressive in all areas of their lives.

The whole method is based on suggestion. Dr. Carl Schleicher, president of MRU, explains how it works:

> If you think learning another language is difficult, you will find it difficult. But if you really relax, have confidence in your instructor and know that learning is one of the most natural things your mind does, it will be easier than you ever thought possible. Convincing students of this through suggestion, then actually proving it, is where the magic lies inthis method.[85]

Schleicher further explains that using both hemispheres of

the brain is the neurological clue to the success of the method. The left brain is used in the traditional classroom where students pay attention to the instructor and struggle to remember the material, while the right brain is busy picking up subliminal stimuli which have nothing to do with the lesson. Suggestopedia uses the right brain directly in the concert session, permitting easy access to the new material. Later, the left brain is used in reading the lesson. Both hemispheres are used in the games and dramatic situations. Unconscious signals are purposefully used in this method, and it also functions in de-suggesting old ideas that learning is painful and difficult. Lozanov insists that the method has nothing to do with hypnotism. It is merely a case of convincing the student that his learning ability is much greater than he normally expected.[86] (Some 200 words can be learned per day, whereas normally 20 or 30 new words would be retained with difficulty).

The method has other uses besides language teaching. Elementary school classes in Sofia used it to complete an entire school year in two and a half months. Training methods for other subjects have been developed also, including algebra, mathematics, and physics. Lozanov has hopes for extensive future use of the method in many fields. Suggestopedia is constantly being researched and updated as Lozanov gains more experience with it and as results of the experiments from his lab are obtained.

The future of suggestion in education is assured since all forms of human communication employ it. But whether suggestion is used consciously and effectively will depend on the creativity and sensitivity of individual teachers. Experience from the time of the Indian yogic schools to the present reveals some important basics in the use of suggestion.

First of all, relaxation is helpful in retaining new material. Anxious study habits and cramming are not as effective as a relaxed, emotionally pleasant perusal of the material. Relaxation enables the right brain to be employed as well as the left. Secondly, suggestion is useful in creating a good mind set for being a student. Specific motivational problems can be tackled with the right suggestions. Relaxation, hypnosis, auto-hypnosis, and auto-suggestion are techniques useful in implanting suggestions in the subconscious. Most experimental research leans toward the conclusion that light hypnosis or indirect suggestion is better for learning than a deep trance or direct command. Since hypnosis is a clinical tool to be used by trained professionals and is not immediately useful in every classroom, anyway, teachers should concentrate on setting up a classroom atmosphere somewhat similar to that of the Lozanov method. This atmosphere - relaxed, warm, and goal-directed - would de-suggest the notion that learning is difficult and unpleasant. By using his or her role in an authoritative way and being vitally aware of subliminal stimuli in the classroom, a teacher can control the input which students receive subconsciously. He or she can program classroom activities creatively, by direction and indirection. Both left and right brain activities, passive and active, can be encouraged to promote integration of the material. Finally, the method of suggestion can be extremely useful in those areas of student counseling where learning difficulties seem insurmountable. The right suggestion, given in a way that it reaches the subconscious, can change a student's attitude, increase motivation, and overcome emotional blocks. In education, suggestion is a force so powerful, but so basic, that it goes unnoticed. Those educators who are aware of its potential and sensitive to its use will be in a position to enhance every teaching activity, directly and indirectly.

FOOTNOTES

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[79]Joseph Melnick and Ronald W. Russell, "Hypnosis versus Systematic Desensitization in the Treatment of Test Anxiety," Journal of Counseling Psychology, 23, No. 4, (July 1976), 294.

[80]Jose Silva and Philip Miele, The Silva Mind Control Method, (New York: Pocket Books, 1977), pp. 24-25.

[81]Ibid., pp. 48-49.

[82]Theodore X. Barber and David Smith Calverly, "Toward a Theory of Hypnotic Behavior: Experimental Evaluation of Hull's Postulate that Hypnotic Susceptibility is a Habit Phenomenon." Journal of Personality, 34, (1966), p. 416.

[83]This account based on the summary of Lozanov's book by Jane W. Bancroft, "Suggestology and Suggestopedia: the Theory of the Lozanov Method," ERIC Document ED 132 857 FL 008 259, (1976).

[84]This account of suggestopedic schools taken from Philip H. Miele, "The Power of Suggestion: A New Way of Learning," Parade, (March 12, 1978), 19.

[85]Ibid., p. 19.

[86]Sheila Ostrander and Lynn Schroeder, The ESP Papers, (New York: Bantam Books,1976), pp. 74-76, 66.

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